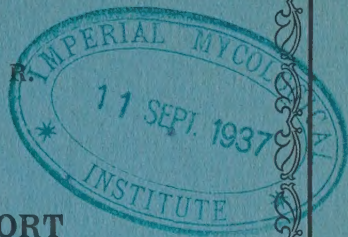
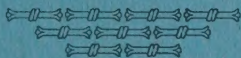


G.



ANNUAL REPORT
OF THE
SUPERINTENDENT,
BOTANICAL & FORESTRY
DEPARTMENT
FOR THE YEAR
1936.



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Appendix N.

HONG KONG.

REPORT OF THE BOTANICAL AND FORESTRY DEPARTMENT FOR THE YEAR 1936.

GENERAL.

The weather during the first seven months of the year was generally favourable for both gardening and forestry operations; the typhoon which passed close to the Colony on August the 17th did serious damage in all gardens and grounds and destroyed many roadside trees in all parts of the Colony.

2. The last three months of the year were very dry and many forest and grass fires occurred during this period.

3. The rainfall for the year, as recorded by the rain gauge in the New Garden, was 73.74 inches in 131 days as against 76.34 inches in 148 days in the preceding year.

GARDENS, PARKS AND GROUNDS.

4. *Botanic Gardens*.—The majority of the large trees and shrubs in both gardens were damaged and a large number totally destroyed by the typhoon; areas planted with annuals and other small shrubs were completely bare when the wind, which at one period reached a velocity of 132 miles per hour, had moderated.

5. The bandstand and the major portion of the plant house in the Old Garden were destroyed; fortunately, owing to the warnings sent out from the Royal Observatory, most of the pot plants were removed to sheltered positions and saved from damage.

6. The work of clearing debris and general reconditioning the gardens was still proceeding at the end of the year.

7. The largest tree totally destroyed was an *Araucaria excelsa*, R. Br., others were *Ficus retusa*, Wall., *Prunus punctata*, Hook., *Grevillea robusta*, A. Cunn., *Thevetia neriifolia*, Juss., *Spathodea nilotica*, Seem., *Spathodea cauda-felinae*, Hance, *Cassia grandis*, Linn., *Paulownia Fortunei*, Hemsl., *Copaifera officinalis*, Linn., *Terminalia Fatraea*, DC., *Stereospermum sinicum*, Hance, *Cassia fistula*, Linn., *Averrhoa Carambola*, Linn., *Acacia confusa*, Merr., *Keteleeria Fortunei*, Carr, *Ligustrum lucidum*, Mill., *Araucaria Cunninghamii*, Ait., *Camptotheca acuminata*, Decne, *Hovenia dulcis*, Thunb., *Eucalyptus Smithii*, R. T. Baker and *Cupressus lusitanica*, Carr.

8. All trees and shrubs planted to replace those destroyed are specimens of the flora of Hong Kong and Kwang Tung.

9. The large slope below the Fountain Terrace, Old Garden, was cleared of undergrowth, trimmed and turfed; the top of the bank was planted with a line of *Casuarina equisetifolia*, Linn., the remainder of the area was planted with *Rhododendron indicum*, Sweet, *Phoenix Roebelinii*, O'Brien and *Lycoris aurea*, Herb. This alteration has greatly improved that portion of the Old Garden which can be seen from Upper Albert Road.

10. On the flat turfed areas adjoining the Fountain Terrace, which were formed on the completion of the building of the service reservoir in 1933, the scheme of planting a collection of the rarer flowering trees and shrubs found in Hong Kong and South China was commenced; groups of the following plants, collected from various parts of the Island, were established, *Camellia hongkongensis*, Seem, *Rhodoleia Championi*, Hook. and *Enkianthus quinqueflorus*, Lour.

11. One hundred plants of *Rhododendron molle*, G. Don, kindly presented by the Director, Botanical Institute, Sun Yat-sen University, Canton, were planted in two groups on the turfed banks immediately inside the Albany Entrance.

12. Many of the deciduous and non-deciduous trees in both gardens, which were completely stripped of leaves by the typhoon, commenced to show vigorous new growth within a month; the most notable of such trees was a large specimen of *Magnolia Champaca*, Baill, which in addition to producing new leaves, flowered for the second time within the year.

13. The total number of trees, shrubs and pot plants sold was 2,043 as against 1,864 during the preceding year.

14. *Colonial Cemetery*.—A large area, comprising five old burial terraces at the west end of the cemetery, was stripped of old turf, trimmed and returfed.

15. The work of removing damaged trees, chiefly *Pinus Massoniana*, Lambert and roots, in all portions of the cemetery, was in progress at the end of the year.

16. *Chatham Road Layout*.—Work was commenced on the first section, approximately one third of the whole area, shade trees were planted and all ground not required for other purposes was filled with turfed plots and beds of flowering shrubs and foliage plants.

17. *Glenealy*.—Areas on both sides of the nullah were cleared of damaged trees and undergrowth, turfed and planted with a total of 114 *Phoenix Roebelinii*, O'Brien.

18. *Central British School, Kowloon.*—The grounds of this school, containing playing fields, tennis courts and other turfed areas of over eight acres in extent, were taken over by the Department in September. *Aleurites triloba*, Frost and *Casuarina equisetifolia*, Linn. were planted for shade and screen purposes; hedges of *Hibiscus Lambertianus*, H.B.K. were planted on the south side of the school buildings.

19. *Government House; Mountain Lodge; Fan Ling Bungalow; Colonial Secretary's Residence; The Eyrie; Homestead Quarters; Government Pavilions and Villas; Victoria Hospital; Cenotaph Plots; Statue Square Plots; Government Offices; Defence Corps Headquarters; West End Park; Civil Hospital; Mental Hospital; Leighton Hill Quarters; Indian School; Royal Observatory; Kowloon Magistracy and King's Park.* Grounds of all the places mentioned, which are under the control of this Department, were kept in good order generally. Stocks of pot plants were maintained, planting of additional trees and shrubs was carried out on various extensions; trees, shrubs, grass lawns and banks were given such attention as they required and undesirable undergrowth was regularly cleared.

HERBARIUM AND LIBRARY.

20. The total number of books added to the library was 241 and of bulletins 393; of this number 170 books were purchased. The Prison Department rebound 29 volumes.

21. The re-arrangement of the plant specimens in the new lockup cases was still proceeding at the end of the year.

FORESTRY.

22. *Formation of Pine Tree Plantations.*—The extension of old, and formation of new plantations was carried out by the sowing *in situ* and the broadcast method of seeds of *Pinus Massoniana*, Lambert, both on the Island and in the New Territories. Sowings *in situ* totalled 306,102 as against 273,852 in the preceding year; the largest areas dealt with were the hills east and west of the Tai Hang Valley.

23. Sowings by the broadcast method were carried out on grassy areas at Mount Parker, Dragon's Back, Pottinger Gap, Tai Hang Valley.

24. *Broad-leaved Trees Planted.*—The following trees were used in the formation of plantations of varying sizes and the extension of the road side planting scheme in all parts of the Colony:—*Melaleuca Leucadendron*, Linn., *Erythrina indica*, Lam., *Tristania conferta*, Griff., *Bombax Malabaricum*, DC., *Albizia Lebbek*, Benth., *Bauhinia variegata*, Linn., *Delonix regia*, Rafin. and *Paulownia Fortunei*, Hemsl.

25. *Pine Seed Collection*.—Cones were collected from the Fan Ling plantations, extraction was carried out on concrete floors, which have been specially built for this purpose at Sheung Shui Experimental Garden; up to the end of the year 338 pounds of seeds had been obtained.

26. *Insect Pests*.—For the second year in succession the Pine Tree Caterpillars (*Dendrolimus punctatus*) appeared in Pine plantation only in exceptionally small numbers. In accordance with advice received from the Bureau of Entomology, Kew, in 1930, all caterpillars collected since that year have been left alive for some time in shallow pits, under conditions that prevented the ultimate emergence of the moths and at the same time allowed of the escape of parasitic enemies of the caterpillars. It is possible that the fortunate absence of the caterpillars during the past two years is due to the strict observance of the advice referred to.

27. *Forest and Hill Fires*.—During the year 79 fires occurred, 40 of them during the month of October; during the previous year only 20 fires were recorded.

28. The usual numerous handbills were distributed and warning notices were posted, prior to the Ching Ming and Chung Yeung Festivals; the vernacular press also kindly gave prominence to notices requesting all visitors to graves and cemeteries to take precautions against causing damage by fire.

29. *Public Playgrounds*.—Shade trees were planted in the Chinese Recreation Ground, Hollywood Road. Wilful damage and theft necessitated replacements of almost the whole of the stocks of shade trees in the Southorn and Middle Road playgrounds. One corner of the former ground has been enclosed by an unclimable concrete and barbed wire fence, and this is the only area where the trees are making good progress. Although every tree in the Middle Road ground is strongly protected by an expensive tree guard not one of the original specimens planted in 1935 remains.

30. *Paulownia Fortunei*, Hemsl. This beautiful tree was introduced by a former Superintendent, Mr. S. T. Dunn in 1905 and flowered for the first time in 1908; although the wood is brittle and the trees receive severe annual punishment from gales, it continues to produce masses of strikingly handsome flowers. A new avenue of 132 trees was planted on the Repulse Bay Road.

31. *Cheung Chau*.—The roadside planting scheme was increased by the addition of trees of *Erythrina indica*, Lam., *Melaleuca Leucadendron*, Linn and *Casuarina equisetifolia*, Linn. the total number planted was 600. Anti-malarial undergrowth clearing was carried out in vicinity of beaches and dwelling houses.

32. *Aleurites montana*, Wils. All trees produced a heavy crop of seeds, most of which were sold for experimental planting in India and Siam.

33. *Taipo Kau Forestry Reserve*.—The existing plantations of *Cunninghamia sinensis*, R. Br. and *Acacia confusa*, Merr. were increased by the addition of 8,000 young trees of the former and 2,600 of the latter, all were raised in the reserve nursery. In various parts of the reserve 1,700 mixed shade and flowering trees were planted.

34. Seeds of *Pinus khasya*, Royle and *Pinus Merkusii*, Jungh were obtained from the Principal Forest Officer, Federated Shan States, Burma and sown in the nursery. The first named seeds germinated well and the young trees were in excellent condition at the end of the year; the second showed a very low percentage of germination. One new service path was made. A heavy rainstorm in August washed away all the bridges.

35. *Forest Guards Services*.—Cases of damage to plantations, indigenous trees, flowering shrubs and plants were numerous in all districts; the worst offenders are men, many of them comparative newcomers to the Colony, who appear to live solely on the proceeds of thefts of timber suitable for use as fuel, obtained from plantations adjoining thickly populated areas.

36. The total number of persons arrested for all classes of forestry offences by Forest Guards was 251, of these 244 were convicted and 7 discharged. The Police arrested 972 persons of whom 955 were convicted and 17 discharged. Thirty-eight persistent offenders who were convicted of two or more offences, were banished.

Full particulars of the cases are given in Tables I and II.

37. *Preservations of Local Flora*.—Serious damage is still being done to many species of flowering shrubs, Orchids and ferns; during the past few years, numbers of the rarest plants have been lifted and established in Mount Collinson Prohibited Area, but strong measures are still needed to deal with plant collectors who supply unlicensed hawkers. A flower and plant market, chiefly supported by unlicensed sellers, has come into existence in the vicinity of Kowloon Tong and during the past year the collectors for and sellers in this market, destroyed many thousands of the plants referred to. The Plant Ordinance was in November amended so as to include thirty additional species in the list of prohibited plants, this measure will greatly assist the work of the Department and the Police.

38. *Lantana Destruction*.—Although this plant has so far been prevented from becoming a menace to agriculture, it will require to be closely watched by the Department and by land-owners. Large areas were destroyed during the year, but little real good is done by this method, as it spreads extremely rapidly by seed distribution.

39. Mr. David T. Fullaway, Entomologist and Chief Plant Inspector, Board of Commissioners of Agriculture and Forestry, Honolulu, Hawaii, again very kindly supplied the Department with a consignment of the Plume Moth (*Platyptilia pusillidactyla*). The insects were sent in a carton by air from Honolulu to Manila, then by ship to Hong Kong. For several days following their arrival, numbers of moths were liberated on Lantana flowers, in various parts of the Colony. Flower buds of the Lantana which are infested by Plume Moths do not open and consequently cannot produce seed. So far there is no evidence of the moth having established itself in the Colony.

40. *Protection of Plantations.*—The clearing of all fire barriers and forestry paths was carried out before the commencement of the dry season. The total length of old fire barriers dealt with was 49 miles and forestry paths 46 miles. New fire barriers were formed at Shek O, Tai Hang and Tsat Tze Mui; new forestry paths were made on Mount Collinson, Shek O and Tai Po Kau Forestry Reserve.

41. *Undergrowth Clearing.*—In Hong Kong, Kowloon and the New Territories, the total areas cleared in connection with anti-malarial work totalled 2,997,815 square feet; other clearing carried out in connection with surveys, building development and traffic requirements amounted to 791,695 square feet.

AGRICULTURE, ETC.

42. *Fan Ling Experimental Garden.*—The plots of Citrus were given a weekly spraying of lime-sulphur mixture throughout the whole year. Two well known varieties, *Chiu Chau Kom* and *Tim Chang* made good progress and produced heavy crops of fruits; a plot of another very interesting but lesser known Citrus, named locally as *Sha Kom*, and obtained from two isolated trees in a village near Tai Po, was planted and at the end of the year produced a small number of fruits. This sour Citrus is a beautifully coloured fruit and is from one to two pounds in weight. The cultivation of the Citrus, generally, appears to be almost entirely neglected in the New Territories. It would be greatly to the advantage of the residents if healthy stocks of plants could be introduced and planted in place of the very poor types of orchards which are to be seen in the vicinity of nearly all villages.

43. *Inspection of Nursery Stock and Vegetable Products.* The following shipments were inspected and certified as fit for export:—Sixty-four of fresh and dried vegetables to the Philippine Islands, three of mixed lily bulbs and twenty-three of *Narcissus Tazetta*, containing 81,660 bulbs to Britain, Honolulu, Germany, United States of America, Australia and Canada, twenty lots of Sugar Cane, totalling 132,000 pieces to Malaya and twenty-six small lots of mixed seeds and plants to various other countries.

SEED COLLECTION.

44. Seeds of the following were collected for local use and for the purpose of exchange:—*Albizzia Lebbek*, Benth., *Acacia confusa*, Merr., *Acacia Farnesiana*, Willd., *Atalantia Hindsii*, Oliv., *Aleurites Fordii*, Hemsl., *Aleurites montana*, Wils., *Aleurites triloba*, Forst., *Artocarpus hypargyrea*, Hance, *Artocarpus integrifolia*, Linn., *Bauhinia variegata*, Linn., *Bombax Malabaricum*, DC., *Crataeva religiosa*, Forst., *Cunninghamia sinensis*, R. Br., *Castanopsis Lamontii*, Hance, *Camellia hongkongensis*, Seem, *Cassia fistula*, Linn., *Cassia corymbosa*, Lam., *Cassia glauca*, Lam., *Cinnamomum Camphora*, Nees, *Casuarina equisetifolia*, Linn., *Celtis sinensis*, Pers., *Callistemon rigidus*, R. Br., *Cupressus macrocarpa*, Hartw., *Diospyros Morrisiana*, Hance, *Delonix regia*, Rafin., *Garcinia oblongifolia*, Champ., *Elaeocarpus lanceaefolius*, Roxb., *Elaeocarpus chinensis*, Hook., *Grevillea robusta*, A. Cunn., *Ilex asprella*, Champ., *Ixora chinensis*, Lam., *Iris speculatrix*, Hance, *Loropetalum chinense*, R. Br., *Leucaena glauca*, Benth., *Liquidambar formosana*, Hance, *Lilium Brownii*, var. *Colchesteri*, *Melia Azedarach*, Linn., *Phoenix Roebelinii*, O'Brien, *Melaleuca Leucadendron*, Linn., *Paulownia Fortunei*, Hemsl., *Quercus salicina*, Blume, *Quercus Edithae*, Skan, *Quercus Harlandi*, Hance, *Rhodoleia Championi*, Hook., *Strychnos angustiflora*, Benth., *Sapium sebiferum*, Roxb., *Sapium discolor*, Muell-Arg., *Sterculia lanceolata*, Cav., *Tristania conferta*, Griff. and *Tutcheria spectabilis*, Dunn.

EXCHANGE OF SEEDS, ETC.

45. The Department is indebted to the following donors of seeds, plants, etc.:—The Curator, Botanic Gardens, Christchurch, New Zealand; The Director, Botanic Garden, Dr. Sun Yat-sen Memorial Park, Nanking, China; The Director, Botanic Garden of the Imperial University, Tokyo, Japan; Professor Woon-yung Chun (Canton), Dr. G. A. C. Herklots; Rev. W. E. L. Martin; The Introduction Garden, Sukhum, Transcaucasus, U. S. S. R.; Dr. J. D. dos Passos (Macau); Hon. Mr. J. J. Paterson; Messrs. J. L. Froggatt (New Guinea); Andrew Tse; J. F. Grose; E. H. P. Lang; R. A. Pereira; E. Phillips Turner (New Zealand); W. J. Agar (Ceylon); Kwok Ping Lau; J. L. Youngsaye and J. M. Westgate (Honolulu); Mrs. T. W. Lewis and Hon. Mr. R. A. C. North.

46. The following were the principal recipients:—The Second Economic Botanist, Bengal, P. O. Tejgaon Shan States, Burma; The Director, Royal Botanic Gardens, Kew; The Pak Hoi Leper Mission, Church Missionary Society, Pak Hoi; The Shiono Koryo Kaisha Ltd., Osaka, Japan; The Agricultural Officer, Department of Agriculture, Northern Province, Sierra Leone; The Director, Department of Introduction and Naturalisation, Subtropical Botanic Gardens, Batum, U. S. S. R.; Dr. G. A. C. Herklots; Professor Woon-yung Chun (Canton);

Dr. J. D. dos Passos (Macau); Lady Pollock; Mrs. F. C. Hall; Hon. Mr. R. A. C. North; Mrs. R. E. Hoare; The Superintendent, Atkins Institution of the Arnold Arboretum and Harvard University, Apartado 251 Soledad, Cienfuegos Cuba; Professor A. Griбанov (U. S. S. R.); and Messrs. J. T. Bagram; Andrew Tse; J. L. Froggatt (New Guinea); H. G. Brayfield; R. C. Dalrymple (New Zealand); Kwok Ping Lau; J. Stevens (New Zealand); F. G. Atkins Walsingham (Cuba); M. K. Sitarum (Bengalore); Robert W. Grey (Cuba); W. J. Agar (Ceylon); W. J. Towne, Oregon State School of Forestry, U. S. A.

REVENUE AND EXPENDITURE.

47. Statements of Revenue and Expenditure of the Department are given in Tables III, IV and V.

H. GREEN,

Superintendent.

Table I.

FOREST GUARDS' SERVICE: OFFENCE.

Village or District.	Block	Report of:—							
		Pine tree stealing	Pine tree branch stealing	Brushwood stealing	Wild Flower stealing	Barking trees	Trespassing in plantations	Impersonating Forest Guard.	Assault on Forest Guard.
Victoria	1	3	—	20	—	—	2	—	—
Wongneichong...	2	1	—	6	—	—	—	—	—
Shaukiwan	3	1	—	5	—	—	—	—	—
Tytan	4	—	—	—	—	—	—	—	—
Stanley	5	—	—	—	—	—	—	—	—
Aberdeen	6	2	—	16	—	—	—	—	—
Pokfulan	7	3	—	19	—	—	—	—	—
Kowloon	8	101	17	15	—	—	13	1	2
Harbour Belt ...	9	—	—	—	—	—	—	—	—
Cheungshawan...	10	5	—	1	—	—	—	—	—
Kang Hau	11	—	—	—	—	—	—	—	—
New Territories.	12	5	2	7	—	—	6	—	—
Total for 1936.		121	19	89	—	—	21	1	2
Total for 1935.		62	47	59	1	1	32	—	—

Table II.

POLICE COURT RESULTS.

<i>Case.</i>	<i>1936.</i>	<i>1935.</i>
\$ 1 to \$ 5 fine	13	5
\$ 6 to \$10 „	6	7
\$11 to \$25 „	4	5
1 to 7 days imprisonment	5	4
8 to 14 „ „	14	21
3 weeks „	38	18
4 „ „	73	66
5 „ „	5	1
6 „ „	30	28
7 „ „	1	—
8 „ „	16	5
10 „ „	—	1
3 months „	3	—
7 „ „	1	—
Discharges	7	8
Cautions	8	8
Caned (Juvenile)	2	1
Bound Over	24	24
Bail estreated \$25	1	—
Total	251	202

Table III.

COMPARATIVE STATEMENT OF REVENUE, 1935 & 1936.

Revenue	1935	1936
	\$	\$
Timber Sales	2,032.03	2,408.69
Plant Sales	715.44	741.59
Loan of Plants	101.28	63.16
Forestry Licences	10,341.50	9,612.63 (A)
Sale of Condemned Stores	20.24	7.92
Overpayments in Previous Years	1.22	—
Other Miscellaneous Receipts ...	575.31	914.68 (B)
Total	13,787.02	13,748.67

(A) Collected by District Officers.

(B) Including \$829 for Inspection of Nursery Stock as against \$555 in 1935.

Table IV.

COMPARATIVE STATEMENT OF EXPENDITURE AND REVENUE
FOR THE PAST TEN YEARS.

Year.	Personal Emoluments & Other Charges.	Special Expenditure.	Total Expenditure.	Total Revenue.
	\$	\$	\$	\$
1927.....	95,722.45	—	95,722.45	7,861.76
1928.....	99,178.99	—	99,178.99	8,849.35
1929.....	101,146.23	—	101,146.23	11,885.97
1930.....	120,565.39	3,809.67	124,375.06	12,376.46
1931.....	121,189.43	—	121,189.43	11,717.67
1932.....	122,041.57	—	122,041.57	17,028.99
1933.....	125,762.23	999.64	126,761.87	17,634.96
1934.....	127,403.14	—	127,403.14	14,084.02
1935.....	117,447.55	—	117,447.55	13,787.02
1936.....	125,355.53	—	125,355.53	13,748.67

Table V.

COMPARATIVE STATEMENT OF EXPENDITURE FOR 193⁵~~4~~ & 193⁶~~5~~

Expenditure	1935	1936
	\$	\$
Personal Emoluments	75,718.05	80,848.56
<i>Other Charges.</i>		
Brushwood Clearing	6,932.00	6,999.20
Conveyance Allowances	2,326.55	2,381.68
Expenses of Collections	200.00	200.00
Field Allowances to Foresters ...	695.68	663.68
Forestry	13,648.47	15,842.24
Forestry Reserve, Taipo Kau	2,641.88	2,975.63
Incidental Expenses	347.95	339.09
Library	846.19	257.31
Light	292.16	314.47
Maintenance of Gardens	9,155.02	9,645.29
Protection of Plantations	1,393.76	1,497.74
Transport	1,310.31	1,409.77
Uniforms & Accoutrements	961.80	1,210.02
Upkeep of Car	977.73	770.85
Total Other Charges	41,729.50	44,506.97
Total Botanical & Forestry Dept.	117,447.55	125,355.53

